

Application Note

AN-ODP- 41

## ***Using the bipolar analog input for current input signals***

**Author: Ning Xu, Invertek Drives Ltd**

**Revision: 2.21     6 September 2006**

- **General:**

In some simple speed control applications (P4-01=0 or 2), the speed reference signal from an external controller is provided in a current format, for example 4...20mA. In this case, 2<sup>nd</sup> analog input can be used as the speed reference input. This is achieved by setting P2-01=19 and closing digital input 2.

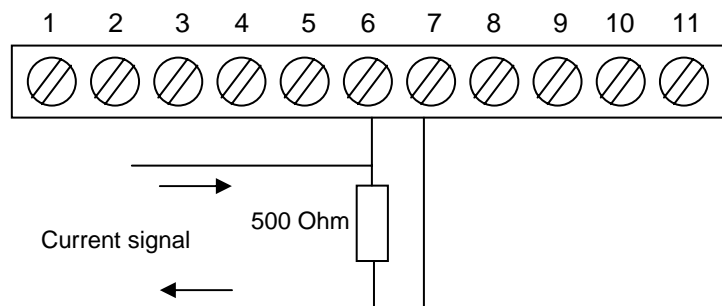
Note that the 2<sup>nd</sup> analog input is shared with digital input 3, so once the 2<sup>nd</sup> analog is used as speed reference, the drive terminal control function will be limited according to option P2-19 = 19. If the application requires additional terminal control functions, the bipolar analog input can be used as the speed reference.

This document describes how to set up the drive in order to achieve a current input on the bipolar analog input.

- **Wiring arrangement :**

The current input signal to the bipolar analog input must be converted into an equivalent 0..10V voltage signal to be compatible with the drive input.

This conversion is achieved by means of an external resistor. The resistor value must be 500 Ohm and needs to be connected between terminals 6 and 7. The wire connection is as follows :



- **Parameter setup:**

### **P2-30 Bipolar analog input**

This parameter should be set to 0..10V format.

**P2-31 Bipolar analog input scaling and P2-32 Bipolar analog input offset**

These two parameters only need to be adjusted for 4..20mA input signals. If the current input is 0..20mA, the default values for P2-31 and P2-32 are already correct.

If the current format is 4..20mA, set P2-32 = 20% and P2-31 = 125%.

By using the bipolar analog input as the speed reference, all digital inputs are available for control functions, set using P2-01 as usual.

--- End ---